

December 31, 1958

Dr. John N. Wolfe, Chief  
Division of Biology and Medicine  
United States Atomic Energy Commission  
Washington 25, D. C.

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Dear John:

Rather than send the information about the Rongelap fish in a TWX we thought there would be less chance for error by calling you directly. For your record the information that was dictated to Patt by telephone on December 31 is as follows:

The average gross beta values for Rongelap fish in terms of microcuries per kilogram of wet tissue are as follows:

1. March 1958, Kabelle Island reef fish

muscle - 0.026  
whole fish - ~ 0.10

2. March 1958, Rongelap Island reef fish

muscle - 0.006  
whole fish - ~ 0.010

3. August 1958, Rongelap Island reef fish -(average maximum value)

muscle - 0.005

(This is an average of a group of fish for which the values from earlier collections have been a maximum).

4. Current average values are as low as or lower than values from any of the previous collections.

Isotopic composition of samples:

1. The estimated amount of  $K^{40}$  in muscle is approximately .003  $\mu$ c/kg.

2.  $Zn^{65}$  is the principal gamma emitter in fish muscle. Maximum value from the August 1958 collection is 0.2  $\mu$ c/kg.

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3. Traces of Co<sup>60</sup> are also present.
4. The only other isotope expected in measurable amounts in fish muscle would be Fe<sup>55</sup>.
5. Sr<sup>90</sup> has not been found in fish muscle from samples collected in 1958 or 1957.

Also, while talking to Patt I discussed the next visit to Washington. Subject to your approval and convenience with your schedule, I shall plan on being at Germantown on January 14, 15 and 16 and will proceed with travel arrangements for this schedule unless I hear from you to the contrary.

The people concerned with the Rongelap program are meeting on Friday, January 2nd. After review of the accomplishments of the program a list of possible papers for presentation at the Montreal meeting will be promptly submitted for your selection.

Also, a draft of a program for marine biology and oceanography for the Alaska Harbor Project will be submitted prior to the ACBM meeting on January 9 and 10.

Best wishes for the New Year.

Sincerely yours,

Allyn H. Seymour  
Assistant Director

AHS:mb

AVERAGE GROSS BETA ACTIVITY IN RONGELAP FISH MUSCLE COLLECTED AUGUST 1958

Island

Family	Rongelap			Eniaetok			Kabelle		
	Av $\mu$ c/kg wet	** No.	Range (13)	Av $\mu$ c/kg wet	** No.	Range (3)	Av $\mu$ c/kg wet	** No.	Range .004-.008
Acanthuridae surgeonfish	.0061	(13)	.002-.008	.0056	(3)	.004-.008	.0006	(1)	
Apogonidae cardinalfish	.003	(1)							
Ballistidae triggerfish	.005	(1)					.004	(1)	
Belonidae needlefish							.010	(1)	
Blennidae blennies	.0023	(3)	.002-.003						
Bothidae	.003	(1)							
sole							.011	(2)	.006-.016
Carangidae	.017	(1)							
Jacks							.008	(1)	
Carcharhinidae sharks	.0035	(2)	.003-.004				.004	(1)	
Chaetodontidae butterflyfish	.003	(3)	.002-.004						
Dulidae	.004	(1)					.077	(1)	
tide poolfish									
Fistularidae cometfish							.004	(1)	
Sphyraenidae	.006	(3)	.006-.006				.0055	(2)	
barracudas									

\* \* pooled samples, containing 1 to 6 specimens.

The use of correction factors based on  $K^{40}$ . The use of correction factors based on  $Zn^{65}$ . Determination of  $Zn^{65}$  levels are in progress. Note: The correction factors were based on  $K^{40}$ . Determination of  $Zn^{65}$  levels would elevate these values considerably.

Family	Rongelap Av μc/kg vet	Emaketok		Av μc/kg Wet	No. Range	Av μc/kg Wet	No. Range
		No.	Range				
Gobiidae	.0027	(6)	.002-.006	.004	(1)	.001	.001
gobies							
Holocentridae	.0037	(6)	.002-.006	.004	(1)	.001	.001
squirrelfish							
Latridae	.004	(7)	.003-.006	.005	(4)	.004-.006	.003-.004
snappers							
Mugilidae	.001	(1)					
mullet							
Muraenidae	.0012	(5)	.001-.012	.006	(2)	.004-.012	.006
boarfish							
Nutridae	.002	(1)					
etc							
Percidentidae	.0025	(6)	.001-.004	.002	(1)	.003	(1)
duskyfish							
Percidae	.0025	(4)	.002-.006				
parrotfish							
Serranidae							
snapper							
Synbranchidae							
conger eels							
Tetraodontidae	.0026	(11)	.001-.008				
puffers							
Xyrichtyidae	.012	(1)					
rabbitfish							
Pterodoraidae	.004	(1)					
puffers							
Trachichidae	.004	(1)					
moray eels							

Note: The correction factors were based on K-40 measurements taken at various elevations. Determination of activity by gamma-ray spectrograph

\* \* selected samples, contaminated by radioactive nucl.

Collected at Rongelap Atoll in August 1958,

Table 3. Total gamma activity in fish tissues<sup>1</sup>, expressed as c/m/g dry weight.

Family and Collection locale	T I S S U E						Gonad	Stomach
	Bone	Muscle	Liver	Gill				
<u>Acanthuridae</u>								
Rongelap I.	0	0	114	0	0	0	37	
Eniaetok I.	0	0	16	0	-	-	34	
<u>Blennidae, Gobiidae, Duhlidae</u>								
<u>Muraenidae, and Mugilidae</u>								
Rongelap I.	0	0	0	0	0	0	15	
Kabelle I.	0	7	63	48	219	84		
<u>Carcharhinidae</u>								
Rongelap I.	0	0	2	6	1	1	21	
Kabelle I.	0	0	3	0	0	0	19	
<u>Chaetodontidae, Pomacentridae</u>								
<u>and Zanclidae</u>								
Rongelap I.	0	0	20	0	0	14	37	
Kabelle I.	0	0	-	-	0	0	58	
Eniaetok I.	0	0	0	0	0	-	52	
<u>Carangidae</u>								
Rongelap I.	1014	64	2023	1348	1208	547		
Kabelle I.	46	16	395	336	-	876		
Eniaetok I.	0	45	151	24	190	42		
<u>Belonidae and Fistularidae</u>								
Kabelle I.	31	5	104	0	122	53		

Table 3. - continued

Family and Collection locale	TISSUE						Gonad	Stomach
	Bone	Muscle	Liver	Gill				
<b>Holocentridae</b>								
Rongelap I.	0	0	893	0	--	--	72	
Kabelle I.	0	0	0	0	--	--	100	
Eniaetok I.	0	0	-	0	--	--	0	
<b>Lutjanidae</b>								
Rongelap I.	0	0	67	0	50	50	38	
Kabelle I.	11	0	620	24	47	47	29	
Eniaetok I.	0	0	0	0	--	--	26	
<b>Mullidae</b>								
Rongelap I.	153	5	538	245	--	--	614	
Kabelle I.	540	52	204	383	--	--	752	
Eniaetok I.	239	3	394	242	--	--	847	
<b>Scaridae</b>								
Rongelap I.	0	0	0	0	5	5	15	
Kabelle I.	22	7	222	448	-	-	119	
<b>Scombridae</b>								
Rongelap I.	27	0	-	0	81	81	37	
Kabelle I.	36	6	72	43	74	74	349	
<b>Serranidae</b>								
Rongelap I.	0	0	225	3	-	-	50	
Kabelle I.	0	0	639	0	-	-	19	
<b>Siganidae, Tetradontidae, Balistidae, and Bothidae</b>								
Rongelap I.	388	4	73	643	-	-	50	
Kabelle I.	0	0	37	9	36	36	24	
<b>Sphyraenidae</b>								
Rongelap I.	71	6	787	37	454	454	194	
Kabelle I.	29	6	191	47	62	62	51	